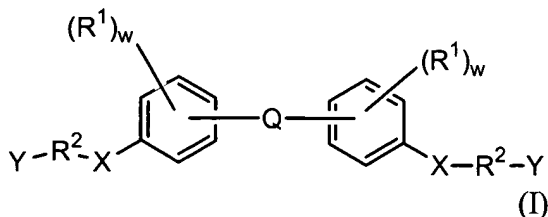


WHAT IS CLAIMED IS:

1. A compound of formula I:



wherein:

Q is -O-, -S(O)_m-, -(CR⁵R⁶)_p-, -O(CR⁵R⁶)_rO-, or -N(R^k)-

each R¹ is independently alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, or R^a;

each R² is independently a covalent bond or alkylene; wherein alkylene is optionally substituted with 1 to 4 substituents independently selected from R^b;

each X is independently oxy (-O-) or -N(R^m)-

each Y is independently NRⁿR^p or a heterocyclyl containing at least one nitrogen atom, wherein each nitrogen of the heterocyclyl is substituted with R³ or is linked to R², and wherein each heterocycle of Y is optionally substituted with 1, 2, 3, or 4 substituents independently selected from R⁴;

each R³ is independently hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, oxo, or heterocyclyl; and each R⁴ is independently alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, or R^b; or R³ and R⁴ are joined to form a C₁₋₄ alkylene group, wherein the alkylene group is optionally substituted with 1 to 4 substituents independently selected from R^b;

each R⁵ and R⁶ is independently hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, or heterocyclyl; or R⁵ and R⁶ together with the carbon atom to which they are attached form a ring having from 5 to 7 ring atoms, wherein the ring optionally contains 1 or 2 heteroatoms in the ring independently selected from oxygen, sulfur or nitrogen;

~~-OC(O)C₁₋₆ alkyl, -C(O)C₁₋₆ alkyl, -C(O)OC₁₋₆ alkyl, -NHC(O)C₁₋₆ alkyl,
-C(O)NHC₁₋₆ alkyl, carboxy, nitro, -CN, or -CF₃;~~

~~R^m is hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, or heterocyclyl; wherein each alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl and heterocyclyl is optionally substituted with 1 to 4 substituents independently selected from R^h;~~

each R^x is independently aryl, heteroaryl, cycloalkyl or heterocyclyl; wherein each aryl or heteroaryl is optionally substituted with 1 to 4 substituents selected from the group consisting of R^c, and wherein each cycloalkyl and heterocyclyl is optionally substituted with 1 to 4 substituents selected from R^b;

n is 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10;

r is 2, or 3; and

each w is independently 0, 1, 2, 3, or 4;

or a pharmaceutically-acceptable salt thereof;

provided that when any Y is NRⁿR^p or a nitrogen-linked heterocyclyl, then the R² attached to that Y is not a covalent bond or methylene.

2. The compound of claim 1 wherein each R¹ is independently C₁₋₁₀ alkyl, C₂₋₁₀ alkenyl, C₂₋₁₀ alkynyl, cycloalkyl, or R^a.

3. The compound of claim 1 wherein each R¹ is independently C₁₋₁₀ alkyl or halo.

4. The compound of claim 1 wherein each R¹ is independently methyl, ethyl, propyl, chloro, bromo, fluoro, or isopropyl.

5. The compound of claim 1 wherein each R¹ is independently methyl, or chloro.

6. The compound of claim 1 wherein each R² is independently a covalent bond or C₁₋₁₀ alkylene.

7. The compound of claim 1 wherein each R² is independently a covalent bond, methylene, 1,2-ethylene, 1,3-propylene, (2R)-2-(methyl)ethane-1,2-diyl, (2S)-2-(methyl)ethane-1,2-diyl, 1-(methyl)butane-1,4-diyl, 1-(methyl)ethane-1,2-diyl, or 2,2-(dimethyl)propane-1,3-diyl.

8. The compound of claim 1 wherein each R² is independently a covalent bond, methylene, or ethylene.

9. The compound of claim 1 wherein Q is -O-, -S(O)_m-, or -(CR⁵R⁶)_p-.

10. The compound of claim 1 wherein Q is -O-, -S(O)_m-, or -N(R^k)-

11. The compound of claim 1 wherein Q is $-(CR^5R^6)_p-$, or $-Q(CR^5R^6)_rO-$.

12. The compound of claim 1 wherein Q is -O-, -S(O)_m-, -(CR⁵R⁶)_p-, or -N(R^k)-

13. The compound of claim 1 wherein Q is methylene, 1,2-ethylene, 3,4-

selected from pyrrolidino, piperidino, and morpholino, wherein each heterocycle of Y is optionally substituted with 1, 2, 3, or 4 substituents independently selected from R⁴.

22. The compound of claim 1 wherein Y is independently amino, diethylamino, dimethylamino, 1-methyl-4-piperidinyl, 1-methyl-3-piperidinyl, 1-methyl-2-piperidinyl, 4-piperidinyl, 3-piperidinyl, 2-piperidinyl, 1-isopropyl-3-pyrrolidinyl, morpholino, (2R,4R)-2-methoxycarbonyl-4-pyrrolidinyl, 1-methyl-3-pyrrolidinyl, 1-methyl-2-pyrrolidinyl, 3-pyrrolidinyl, 2-pyrrolidinyl, 1-pyrrolidinyl, (2S,4R)-2-methyl-4-pyrrolidinyl, (2R,4R)-2-carboxy-4-pyrrolidinyl, (2S,4S)-2-(N,N-dimethylamino)carbonyl-4-pyrrolidinyl, (2R,4R)-2-hydroxymethyl-4-pyrrolidinyl, or (2R,4R)-2-methoxymethyl-4-pyrrolidinyl.

23. The compound of claim 1 wherein each w is 0.

24. The compound of claim 1 wherein each w is 1.

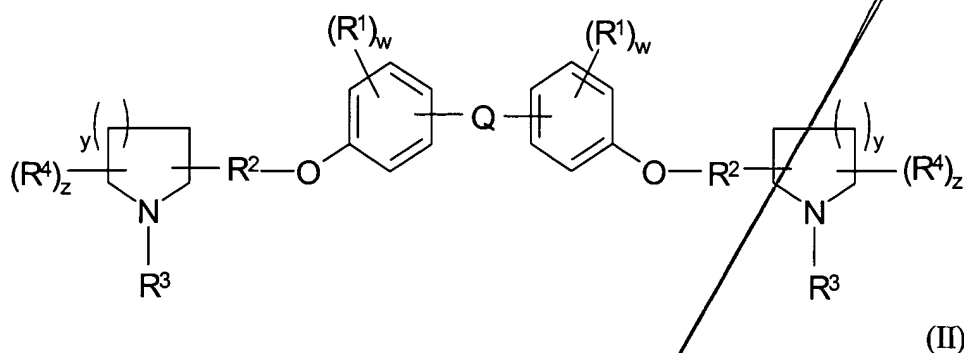
25. The compound of claim 1 wherein each w is 2.

26. The compound of claim 1 wherein each y is independently 1 or 2.

27. The compound of claim 1 wherein each z is independently 0, 1, or 2.

28. The compound of claim 1 wherein R₂ is a covalent bond or methylene; Q is SO₂ or -CR⁵R⁶-; each w is independently 0, 1, or 2; and each y is 1 or 2.

29. The compound of claim 1 which is a compound of formula II:



wherein:

Q is -O-, -S(O)_m-, or -CR⁵R⁶-;

each R¹ is independently alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, or R^a;

each R² is independently a covalent bond or alkylene; wherein alkylene is optionally substituted with 1 to 4 substituents independently selected from R^b;

each R³ is independently hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, oxo, or heterocyclyl; and each R⁴ is independently alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, heterocyclyl, or R^b; or R³ and R⁴ are joined to form a C₁₋₄ alkylene group, wherein the alkylene group is optionally substituted with 1 to 4 substituents independently selected from R^b;

each R⁵ and R⁶ is independently hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, or heterocyclyl; or R⁵ and R⁶ together with the carbon atom to which they are attached form a ring having from 5 to 7 ring atoms, wherein the ring optionally contains 1 or 2 heteroatoms in the ring independently selected from oxygen, sulfur and nitrogen;

wherein for R¹-R⁶, each alkyl, alkenyl, and alkynyl is optionally substituted with R^x, or with 1 to 4 substituents independently selected from R^b; each aryl and heteroaryl is optionally substituted with 1 to 4 substituents independently selected from R^c, and each cycloalkyl and heterocyclyl is optionally substituted with 1 to 4 substituents independently selected from R^b and R^c;

each R^a is independently $-OR^d$, $-NO_2$, halo, $-S(O)_mR^d$, $-SR^d$, $-S(O)_2OR^d$, $-S(O)_mNR^dR^e$, $-NR^dR^e$, $-O(CR^fR^g)_nNR^dR^e$, $-C(O)R^d$, $-CO_2R^d$, $-CO_2(CR^fR^g)_nCONR^dR^e$, $-OC(O)R^d$, $-CN$, $-C(O)NR^dR^e$, $-NR^dC(O)R^e$, $-OC(O)NR^dR^e$, $-NR^dC(O)OR^e$, $-NR^dC(O)NR^dR^e$, $-CR^d(=N-OR^e)$, $-CF_3$, or $-OCF_3$;

each R^b is independently R^a , oxo or $=N-OR^e$;

each R^c is independently R^a , alkyl, alkenyl, or alkynyl; wherein each alkyl, alkenyl and alkynyl is optionally substituted with 1 to 4 substituents independently selected from R^b ;

each R^d and R^e is independently hydrogen, alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, or heterocyclyl; wherein each alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl and heterocyclyl is optionally substituted with 1 to 4 substituents independently selected from R^h ; or R^d and R^e together with the atoms to which they are attached form a heterocyclic ring having from 5 to 7 ring atoms, wherein the heterocyclic ring optionally contains 1 or 2 additional heteroatoms independently selected from oxygen, sulfur and nitrogen;

each R^f and R^g is independently hydrogen, alkyl, aryl, heteroaryl, cycloalkyl, or heterocyclyl; wherein each alkyl, aryl, heteroaryl, cycloalkyl and heterocyclyl is optionally substituted with 1 to 4 substituents independently selected from R^h ; or R^f and R^g together with the carbon atom to which they are attached form a ring having from 5 to 7 ring atoms, wherein the ring optionally contains 1 or 2 heteroatoms independently selected from oxygen, sulfur and nitrogen;

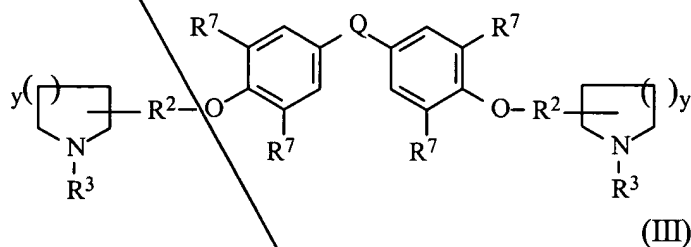
each R^h is independently halo, C_{1-6} alkyl, C_{1-6} alkoxy, aryl, (aryl)- C_{1-6} alkyl, heteroaryl, (heteroaryl)- C_{1-6} alkyl, hydroxy, amino, $-NHC_{1-6}$ alkyl, $-N(C_{1-6} \text{ alkyl})_2$, $-OC(O)C_{1-6}$ alkyl, $-C(O)C_{1-6}$ alkyl, $-C(O)OC_{1-6}$ alkyl, $-NHC(O)C_{1-6}$ alkyl, $-C(O)NHC_{1-6}$ alkyl, carboxy, nitro, $-CN$, or $-CF_3$; and

each R^x is independently aryl, heteroaryl, cycloalkyl or heterocyclyl; wherein each aryl or heteroaryl is optionally substituted with 1 to 4 substituents selected from the group consisting of R^c , and wherein each cycloalkyl and heterocyclyl is optionally substituted with 1 to 4 substituents selected from R^b ;

m is 0, 1, or 2;

x is an integer from 1 to 10;
 each w is independently 0, 1, 2, 3, or 4;
 each y is independently 0, 1, 2, or 3; and
 each z is independently 0, 1, 2, 3, or 4;
 or a pharmaceutically-acceptable salt thereof.

30. The compound of claim 1 which is a compound of formula (III):



wherein

Q is $-O-$, $-S(O)_m-$, or $-CR^5R^6-$;

each R^7 is independently hydrogen, C_{1-10} alkyl, C_{2-10} alkenyl, C_{2-10} alkynyl, cycloalkyl, or R^a ;

each R^2 is independently a covalent bond or C_{1-6} alkylene; wherein alkylene is optionally substituted with 1 to 4 substituents independently selected from R^b ;

each R^3 is independently hydrogen, C_{1-10} alkyl, or oxo;

each R^5 and R^6 is independently hydrogen or C_{1-10} alkyl; or R^5 and R^6 together with the carbon atom to which they are attached form a ring having from 5 to 7 ring atoms, wherein the ring optionally contains 1 or 2 heteroatoms in the ring independently selected from oxygen, sulfur and nitrogen;

wherein for R^3 , R^5 , R^6 , and R^7 , each alkyl, alkenyl, and alkynyl is optionally substituted with R^x , or with 1 to 4 substituents independently selected from R^b ; and each cycloalkyl is optionally substituted with 1 to 4 substituents independently selected from R^b and R^c ;

each R^a is independently $-OR^d$, $-NO_2$, halo, $-S(O)_mR^d$, $-SR^d$, $-S(O)_2OR^d$,

~~$$\begin{aligned}
 &-\text{S(O)}_m\text{NR}^d\text{R}^e, -\text{NR}^d\text{R}^e, -\text{O}(\text{CR}^f\text{R}^g)_n\text{NR}^d\text{R}^e, -\text{C(O)}\text{R}^d, -\text{CO}_2\text{R}^d, \\
 &-\text{CO}_2(\text{CR}^f\text{R}^g)_n\text{CONR}^d\text{R}^e, -\text{OC(O)}\text{R}^d, -\text{CN}, -\text{C(O)}\text{NR}^d\text{R}^e, -\text{NR}^d\text{C(O)}\text{R}^e, \\
 &-\text{OC(O)}\text{NR}^d\text{R}^e, -\text{NR}^d\text{C(O)}\text{OR}^e, -\text{NR}^d\text{C(O)}\text{NR}^d\text{R}^e, -\text{CR}^d(=\text{N}-\text{OR}^e), -\text{CF}_3, \text{ or } -\text{OCF}_3;
 \end{aligned}$$~~

each R^b is independently R^a, oxo or =N-OR^c;

wherein each alkyl, alkenyl and alkynyl is optionally substituted with 1 to 4 substituents independently selected from R^b;

each R^f and R^g is independently hydrogen, C₁₋₁₀ alkyl, aryl, heteroaryl, cycloalkyl, or heterocyclcyl; wherein each alkyl, aryl, heteroaryl, cycloalkyl and heterocyclcyl is optionally substituted with 1 to 4 substituents independently selected from R^h; or R^f and R^g together with the carbon atom to which they are attached form a ring having from 5 to 7 ring atoms, wherein the ring optionally contains 1 or 2 heteroatoms independently selected from oxygen, sulfur and nitrogen;

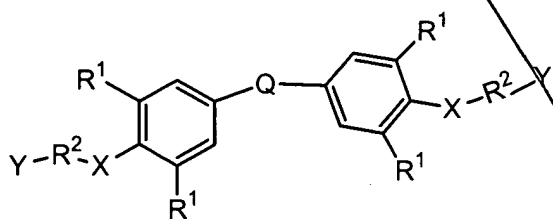
each R^x is independently aryl, heteroaryl, cycloalkyl or heterocyclyl; wherein each aryl or heteroaryl is optionally substituted with 1 to 4 substituents selected from the group consisting of R^c, and wherein each cycloalkyl and heterocyclyl is optionally substituted with 1 to 4 substituents selected from R^b; and

or a pharmaceutically-acceptable salt thereof.

31. The compound of claim 1 which is a compound of any one of formulae V-XXX, shown in Figures 1-3, wherein X, Y, Q, R¹, R², and w have the values given in claim 1.

32. The compound of claim 31 wherein each R¹ is independently methyl, or chloro; Q is methylene, 1,2-ethylene, 3,4-hexylene, dimethylmethylene, oxy, -NH-, -OCH₂CH₂O-, or a group -C(R⁵)(R⁶)- wherein R⁵ and R⁶ together with the carbon to which they are attached form a cyclohexylene ring; each X is independently oxy or -NH-; each R² is independently a covalent bond, methylene, 1,2-ethylene, 1,3-propylene, (2R)-2-(methyl)ethane-1,2-diyl, (2S)-2-(methyl)ethane-1,2-diyl, 1-(methyl)butane-1,4-diyl, 1-(methyl)ethane-1,2-diyl, or 2,2-(dimethyl)propane-1,3-diyl; and each Y is independently amino, diethylamino, dimethylamino, 1-methyl-4-piperidinyl, 1-methyl-3-piperidinyl, 1-methyl-2-piperidinyl, 4-piperidinyl, 3-piperidinyl, 2-piperidinyl, 1-isopropyl-3-pyrrolidinyl, morpholino, (2R,4R)-2-methoxycarbonyl-4-pyrrolidinyl, 1-methyl-3-pyrrolidinyl, 1-methyl-2-pyrrolidinyl, 3-pyrrolidinyl, 2-pyrrolidinyl, 1-pyrrolidinyl, (2S,4R)-2-methyl-4-pyrrolidinyl, (2R,4R)-2-carboxy-4-pyrrolidinyl, (2S,4S)-2-(N,N-dimethylamino)carbonyl-4-pyrrolidinyl, (2R,4R)-2-hydroxymethyl-4-pyrrolidinyl, or (2R,4R)-2-methoxymethyl-4-pyrrolidinyl.

33. The compound of claim 1 which is a compound of formula XX:

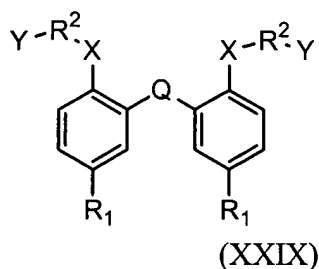


(XX)

wherein Q is methylene, 1,2-ethylene, 3,4-hexylene, dimethylmethylene, oxy, or a group -C(R⁵)(R⁶)- wherein R⁵ and R⁶ together with the carbon to which they are

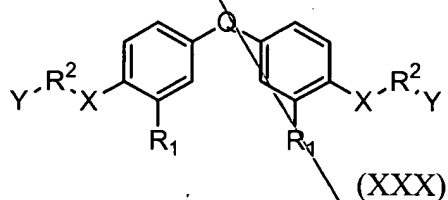
attached form a cyclohexylene ring; and wherein X, Y, R¹, and R² have the values given in claim 1; or a pharmaceutically acceptable salt thereof.

34. The compound of claim 1 which is a compound of formula XXIX:



wherein Q is methylene; and each R¹ is chloro; or a pharmaceutically acceptable salt thereof.

35. The compound of claim 1 which is a compound of formula XXX:



wherein Q is methylene; and each R¹ is chloro; or a pharmaceutically acceptable salt thereof.

36. The compound of claim 1, which is a compound shown in Table 1; or a pharmaceutically acceptable salt thereof.

37. A pharmaceutical composition comprising a compound as described in any one of claims 1, 29, 33, 34 or 35; and a pharmaceutically acceptable carrier.

38. A method of treating a disease or condition associated with sodium channel activity in a mammal, comprising administering to the mammal a therapeutically effective amount of a pharmaceutical composition of claim 37.

39. The method of claim 38 wherein the disease or condition is neuropathic pain.

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